JP-029032/1997. Therefore, Applicants remove Yuan as prior art, by perfecting Applicants' claim to Japanese priority by submitting herewith certified English-language translations of Applicants' priority documents JP-286642/1996 and JP-029032/1997. Accordingly, claims 7-15 should now be allowed.

Applicants rewrite claim 3 and 5 in independent form, and amend claim 1 explicitly to recite the effect achieved by a liquid crystal display panel as defined therein. Applicants respectfully submit that these amendments do not narrow the scope of the original claims 3 and 5, but are there to present these claims in independent form, and thus contain no additional limitations. Also, claim 1 has been amended to make explicit what was believed to have been already implicitly defined by the structure as recited therein. Since these amendments do not narrow the scope of the original claims 1, 3 and 5, they are not subject to *Festo* estoppel.

With regard to the §103 rejection of **dependent claims 4 and 6**, this rejection is incorrect. In particular, since the Examiner indicated that claims 3 and 5 would be allowable, claims 4 and 6, which depend on claims 3 and 5, respectively, should also be allowable because claims 4 and 6 incorporate, by reference, all the novel and unobvious features of the claims from which they depend. Accordingly, the Examiner's prior art rejection of claims 4 and 6 should be withdrawn. Applicants rewrite claims 3 and 5 in independent form including all of the limitations of their base claim 1; therefore, claims 3-6 should now be allowed.

With regard to the Examiner's rejections of claims 1 and 2, Applicants note that Shimizu discloses a multiple-gap in TN, while Oh-e et al. discloses a monograph showing a basic concept of IPS.

One of the features of Applicants' invention, as claimed in independent claim 1, is changing the thickness of the liquid crystal layer in each color layer, in order to efficiently control coloring when viewing is from an oblique direction in the IPS mode liquid crystal display element having a wide view angle.

Applicants respectfully submit that changing the thickness is based on a new knowledge in which arranging the thickness in proportion to wave length to include 70% or more of peak of incoming light, i.e., permeation light passes through the color filter in each layer, thereby facilitating the efficient control of coloring when viewing from an oblique direction.

On the other hand, Oh-e et al. discloses varying pre-tilt angles of liquid crystal orientation between high and low substrates in order to relieve the dispersion of luminance caused by a change in the panel gap in the case of front view of an IPS mode liquid crystal display element. Accordingly, Oh-e does not disclose or suggest both the coloring in the case of an oblique view and changing the thickness of liquid crystal in each color layer in order to control the coloring.

Shimizu discloses changing the thickness of liquid crystal in the case of front view in a twisted nematic (TN) mode. However, like Oh-e, Shimizu does not disclose, teach or suggest coloring in the case of an oblique view. This is caused by the fact that coloring was not perceived at all by Shimizu, since the view angle is narrow and in an oblique view, a much more serious problems which further lower the quality of the picture, such an instantly gray scale or dimming from black in TN mode, must be addressed.

Thus in TN mode, coloring in the case of an oblique view has never been perceived as an essential problem, therefore no plan for a resolution to such a problem is taught or suggested.

Further, orientation states of liquid crystal differ from each other between IPS mode in Applicant's invention as claimed in claims 1, and TN mode. Unlike the prior art, Applicants' claimed invention changes the thickness of the liquid crystal layer as a way of solving the coloring problem in the oblique view.

Furthermore, Applicants' invention as claimed in claim 2 requires arranging the thickness in proportion to wave length including 70% or more of peak of incoming light, i.e., permeation light passing through the color filter in each layer facilitates the best way to efficiently control coloring when viewing from an oblique direction.

Thus as explained above, an IPS multi-gap mode as claimed in Applicants' claims 1 and 2 produces a good and entirely different result that TN-multigap mode of prior art. Accordingly, claims 1 and 2 would not have been obvious from Oh-e and Shimizu.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

Stan Torgovitsky
Registration No. 43,958

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: April 5, 2001

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) An active matrix liquid crystal display panel, comprising:

a first substrate on which a plurality of color layers having transmission wavelengths different from each other are provided in parallel to each other;

a second substrate disposed in an opposing relationship to said first substrate with a predetermined clearance left from said first substrate for generating a predetermined electric field when a predetermined voltage is applied; and

a liquid crystal layer formed from liquid crystal injected in a gap defined by a surface of said first substrate adjacent said second substrate and a surface of said second substrate adjacent said first substrate;

the electric field generated by said second substrate being substantially parallel to said liquid crystal layer to control a display;

said liquid crystal layer having a thickness which varies depending upon the transmission wavelengths of said color layers, whereby coloring is controlled in a case of an oblique view with respect to said first substrate and said second substrate.

3. (Amended) An active matrix liquid crystal display panel [as claimed in claim 1], comprising:

a first substrate on which a plurality of color layers having transmission wavelengths different from each other are provided in parallel to each other;

a second substrate disposed in an opposing relationship to said first substrate with a predetermined clearance left from said first substrate for generating a predetermined electric field when a predetermined voltage is applied; and

a liquid crystal layer formed from liquid crystal injected in a gap defined by a surface of said first substrate adjacent said second substrate and a surface of said second substrate adjacent said first substrate;

the electric field generated by said second substrate being substantially parallel to said liquid crystal layer to control a display;

said liquid crystal layer having a thickness which varies depending upon the transmission wavelengths of said color layers,

wherein said second substrate includes

a plurality of pixel electrodes provided corresponding to said color layers, the predetermined voltage being applied to said pixel electrodes, and

a plurality of opposing electrodes provided in parallel to said pixel electrodes for each of said color layers for cooperating, when the voltage is applied to said pixel electrodes, with said pixel electrodes to generate the electric field therebetween,

said pixel electrodes and said opposing electrodes being spaced from each other by distances which are different for the individual color layers.

5. (Amended) An active matrix liquid crystal display panel [as claimed in claim 1], comprising:

a first substrate on which a plurality of color layers having transmission wavelengths different from each other are provided in parallel to each other;

a second substrate disposed in an opposing relationship to said first substrate with a predetermined clearance left from said first substrate for generating a predetermined electric field when a predetermined voltage is applied; and

a liquid crystal layer formed from liquid crystal injected in a gap defined by a surface of said first substrate adjacent said second substrate and a surface of said second substrate adjacent said first substrate;

the electric field generated by said second substrate being substantially parallel to said liquid crystal layer to control a display;

said liquid crystal layer having a thickness which varies depending upon the transmission wavelengths of said color layers,

wherein said liquid crystal layer has a thickness which is increased in proportion to one wavelength selected from a wavelength region in which transmission factors of said color layer are higher than 70% of those at peaks of transmission spectra of said color layers; and

wherein said second substrate includes

a plurality of pixel electrodes provided corresponding to said color layers, the predetermined voltage being applied to said pixel electrodes, and

a plurality of opposing electrodes provided in parallel to said pixel electrodes for each of said color layers for cooperating, when the voltage is applied to said pixel electrodes, with said pixel electrodes to generate the electric field therebetween,

said pixel electrodes and said opposing electrodes being spaced from each other by distances which are different for the individual color layers.